

Ordinals

Reporting Category Number and Number Sense

Topic Identifying the ordinal positions

Materials

- Twenty small classroom objects (e.g., pencil sharpener, board eraser, box of crayons)
- Sticky notes with ordinal numbers, 1st–20th, written on them
- Cube-shaped counters of various colors

Vocabulary

ordinal number, ordinal position terms first through twentieth, horizontal, vertical

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Begin by involving students in some activities that include the concept of first place, second place, third place...twentieth place. Some examples include the following. Have twenty students line up and state their ordinal positions (e.g., “I am first.” “I am second.”... “I am twentieth.”). Have six or more students run a short race, and have the others determine who finishes first through sixth (or higher). Using toy cars and a sloping board, allow students to race the cars and determine which one finishes first, second, etc. Take an ordinal field trip to the playground, and instruct students to go to the first fence post, second fence post, etc. Have every student participate in at least one of the activities.
2. Ask students what all of these activities have in common. Explain that today they will be talking about numbers that indicate a *position* in a series or order. Ask students to explain how ordinals were used in each activity.
3. Gather 20 objects from around the room (or use counters of various shapes and colors), and display them in a row. Pass out sticky notes with the ordinal numbers from 1st to 20th written on them. Select students to come up and label the objects to identify their ordinal positions in the row from left to right. Once the left-to-right direction has been established, make sure students continue to use it as the basis of the order. Then, remove the sticky notes, pass them out again, and have students label the positions of the items in the opposite direction—i.e., right to left.
4. Display six cube-shaped colored counters in a horizontal row. Have students come up and label their ordinal positions from left to right, using sticky notes. Ask them to predict what will happen to the assigned ordinal numbers when you stack the row of cubes vertically. Will they still be correct? Then stack the cubes, keeping cubes in the same order and putting the sixth cube on the bottom. Have students discuss what has changed and/or what has not changed. Students should realize that the ordinal position has not changed as long as they count from top to bottom. Remove the sticky notes. Ask other students to

come up and label the six cubes with ordinals from bottom to top. Ask them to predict what will happen when you put the cubes back in their original positions. Restore the cubes to their original horizontal positions, and have students discuss what has changed and/or what has not changed.

5. Place students in groups of four to six. Have one student from each group select 20 objects from around the room to bring back to the group and arrange in a row. Direct each student in the group to draw simple pictorial representations of the row of objects and label the 20 pictures with ordinal numbers, 1st–20th. Ask them to explain what will happen to the assigned ordinal numbers when they change the orientation of the row from horizontal to vertical. Allow the students to physically change their viewpoint (get up and move so that the row appears to become a column) and then write their explanations.
6. Review and summarize with the class what students did and learned in the activity. Have them share their pictorial representations and written explanations.

Assessment

- **Questions**
 - Does changing the orientation of a row of objects from horizontal to vertical change the ordinal positions? Why, or why not?
 - How can it be proven that an object in the third position will stay in the third position regardless of orientation?
 - Think of the ordinal position “fourth” and the number four. How are they alike? How are they different?
- **Journal/Writing Prompts**
 - Wilson’s class of 20 students is lined up in the hallway for recess. Wilson is the fourth person in the line. When the class gets to the door, they discover that it is locked, so the teacher tells them to stay in their places and turn around to face the opposite direction. Is Wilson still the fourth person in line? Draw a picture, and explain your reasoning.
 - Kim is playing with a toy train. The engine is first, followed by four cars. As the train goes around the track, does each car stay in the same ordinal position? Draw a picture, and explain your reasoning.
- **Other**
 - Circulate as students draw and label the pictorial representations to observe students’ strategies and rationales for determining the ordinal numbers. Check for understanding about the impact of counting from left to right versus right to left and top to bottom versus bottom to top. Give help, as needed.
 - Give each student a small collection of objects or counters, and have them repeat the activity individually. Collect papers as an assessment.
 - Use a “Give One/Get One” strategy. This is where students will share with a partner what they learned from the lesson. On a piece of paper, have students write two or three things they learned from the activity. After students have written their ideas, group students in pairs, and have partners share their lists and ask questions about

new or confusing ideas. Repeat a couple of times so that each student has a chance to discuss ideas with several different classmates.

Extensions and Connections (for all students)

- Read aloud a story that uses ordinal numbers. Stop at each ordinal number to be sure students understand exactly what it means in context.
- Have students write their own stories that use ordinal numbers.
- Have students write a “How to” manual for a process involving a sequence of steps, using ordinal numbers for each step. Topics might include “How to make a sandwich,” “How to build a snowman,” and “How to study for a test.”
- Explore with students ways that ordinal positions are used in practical situations.
- Give each student an index card with a different ordinal number written on it, 1st through however many students there are in the class. Have students line up in accordance with their ordinal numbers.

Strategies for Differentiation

- Have students use large grid paper with large squares on which to draw their objects in ordinal positions.
- Allow students who have difficulty with drawing to use stamps or stickers.
- If students are struggling with going all the way to the twentieth position, break the ordinal positions up into smaller groups, like first through tenth and then eleventh through twentieth.
- Tape ordinal position cards to the floor. Assign ordinal positions to the students as their line position for the day, and have them stand on the appropriate cards.